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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/856,362

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Dominique Hamoir

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EXAMINER

PASCAL, LESLIE C

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,362

Applicant(s)

HAMOIR, DOMINIQUE

Examiner

Leslie Pascal

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 and 10-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 24-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In regard to claim 24 (as in previous claim 9), it appears that there is no separate means that provides the compensation. How can one single means cause the problem AND fix the problem? THE APPLICANT ONLY CLAIMS ONE MEANS IN THE CLAIM. It is a fiber. It is unclear how the applicant can argue that this is not a single means claim, if there is only one means. See MPEP 2164.08(a). In regard to claim 25, it is unclear how the attenuation is done in a distributed way. The specification does not teach attenuation which is distributed.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 11-18, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saleh (6587241).

Saleh teaches a broad band WDM system (claim 20) which has a fiber that is subject to attenuation (column 4, lines 25-29) and means to compensate for the attenuation (amplifiers), which compensate for energy transfers (partitioning in order to compensate for each band of wavelengths, column 5, lines 35-43). The bandwidth used is 1300-1650 and is greater than 20-30 THz and extends beyond 1620 (the 1650 nm range). In that he says the 1650 RANGE, it would have been obvious to use wavelengths above 1650. In regard to claims 5 and 16-17, he teaches a distributed amplifier (column 6, lines 63-66) which is the element that the applicant uses to provide this function. In regard to claim 18, see column 7, lines 3-10. Saleh is concerned with using broad wavelengths together. The applicant's specification teaches that this causes energy transfers. Although Saleh does not specifically what causes the attenuation, Raman effect is caused by using wavelengths in very broad wavelengths together (applicant's specification page 4, lines 12-18) which Saleh has. Saleh teaches compensating by partitioning wavelengths into bands in order to compensate them, it would have been obvious, if not inherent (since he is using the same means as the applicant-see claim 13 of Saleh, he also says that he uses different types for different bands) that he would compensate for Raman effect. The applicant's specification teaches that using wavelengths over large bandwidths "generates distortion by crosstalk between the various channels" (applicant's specification page 4, lines 12-18).

5. Claims 7-8, 10, 19-20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saleh (6587241) as applied to claims 1-6 and 11-18 above, and further in view of Chraplyvy (EP0749224).

In regard to claim 10, Saleh teaches that the amplifier can serve multiple purposes such as providing different levels of amplification of the wavelengths. See column 10 lines 33-46 of Saleh. He teaches using different amplifiers in parallel in order to correct for different wavelength ranges. In that the Raman effects the transfer of power from lower to higher channels, it would have been obvious to decrease power levels for long wavelengths as taught by Chraplyvy in order to compensate for SRS degradation (claim 1 of Chraplyvy) in at least one of the amplifiers of Saleh. In that it is well known for amplifiers to operate as attenuators and Chraplyvy teaches that his amplifier is accompanied by a filter, which provides decreased power level for a long wavelength channel the filter operates as an attenuator for longer wavelength channels.

6. In regard to the applicant's arguments that claim 24 is not "single means" claims, it is unclear what the applicant is arguing. There is only ONE means claimed (a fiber). See MPEP 2164.08(a). This is a single means claim. A "means" is a structure. The only structure in the claim is a fiber. Do all (or many different types of fibers) fibers read on this? If they do not, what is the difference between the applicant's fiber and ALL other prior art fibers? It is further unclear that since the fiber (the only means claimed) causes the problem and corrects the problem, that there is a problem. Is there really a problem? It is unclear how the fiber causes the problem and corrects it. How does your invention do this? Is it a special type of fiber that has never been used before? If it is, the applicant must disclose what it is and how it works. If it is a well-known fiber, then why is the well known (prior art) fibers different than the applicant's? The applicant points out that a skilled artisan would appreciate that a fiber could have more than one

function. The examiner agrees that a fiber may do more than one function at a time (i.e. carries a signal and causes dispersion and takes up space). This is totally irrelevant to a single means claim. All single means provide more than one function (take up space and any other function required).

In regard to claim 25, it is unclear how the attenuation is done in a distributed way. The specification does not teach attenuation which is distributed. This statement was made in the prior action. There was no explanation in the remarks with regard to this statement. What means are used that provide attenuation in a distributed way? How is this done?

In regard to the applicant's arguments that Saleh is non-analogous art, this argument is not understood. Both the applicant's and Saleh's inventions are optical communications systems used over a broad band of wavelengths. The fact that Saleh uses protection schemes in addition to broadband communications, in no way makes the art non-analogous. Saleh teaches using different amplification at different ranges (column 7, lines 3-10 and 53-57; column 8, lines 20-24; column 10, lines 33-42). This would make the arts analogous. They have the same problem and correct for each range separately. The applicant specification teaches that when broad bands are used together- it CAUSES the Raman effect. If using broad bands together causes the Raman effect in the applicant's invention, why doesn't it cause the Raman effect in Saleh? It is unclear how the applicant can argue that somehow Saleh does not have a problem that the applicant's specification teaches even though the applicant has the same conditions that Saleh has (I. E. a fiber and broad band WDM).

The applicant argues, "Saleh does not differentiate whether the failed wavelength group is at the beginning of a band, in the middle of the band, or at the end of the band." Saleh teaches using different amplification at different ranges (column 7, lines 3-10 and 53-57; column 8, lines 20-24; column 10, lines 33-42). "Saleh does not realize the special characteristic of energy transfers between channels caused by the Raman effect over the very broad band, it is not possible for Saleh to compensate for, theoretically or practically, the energy transfer caused by the Raman effect." He teaches that there is different Raman gain provided for distinct wavelength ranges (column 7, lines 53-57). He teaches using different amplification at different ranges (column 7, lines 3-10 and 53-57; column 8, lines 20-24; column 10, lines 33-42). "There is no mention anywhere in Saleh of the concept of energy transfers between channels caused by the Raman effect, so there is nothing to suggest taking this into account when designing any other part of the system." The applicant uses distributed Raman amplifiers in order to compensate for energy transfers (applicant's page 9 lines 18-20). Saleh uses distributed amplifiers (column 6, lines 65-column 7, line 2) for compensation. It is unclear how Saleh's system operates differently than the applicant's. Why does the applicant's distributed amplifier provide compensation that Saleh's would not? The applicant argues that, "Chraplyvy does not mention the Raman effect over the very broad band, which not only includes the depletion of signals over the lower wavelength channels of a band, but also the enrichment of signals over the higher wavelength channels of the band." The claims rejected under this section do not mention the depletion of signals over the lower wavelength channels of the band. Chraplyvy is

concerned with compensating the depletion of the high frequency channels, which these claims are drawn to. In regard to the comment, "Given the different purposes of Saleh and Chraplyvy, there is no suggestion or motivation for a skilled artisan to combine the two references." Saleh teaches using different types of amplification to compensate for different ranges. Chraplyvy teaches amplification which compensates for high frequency range. It would have been obvious to compensate for a range of channels in the system of Saleh by using the amplifying of Chraplyvy in order to compensate for a band of channels.

The applicant's specification is vague with regard to how the invention works. The examiner can only construe from the vague specification that using different types of amplifiers for different bands provides the compensation for the applicant. Since Saleh teaches a broad band, compensation for different bands with different types of amplifiers – it is unclear how Saleh does not obviously, if not inherently, provide the same type of compensation since he uses the same types of amplifiers that the applicant does. If he uses the same means in the same type of system as the prior art, the applicant has a burden to explain why they are different.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

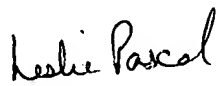
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Pascal whose telephone number is 571-272-3032. The examiner can normally be reached on Monday, Friday 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leslie Pascal
Primary Examiner
Art Unit 2633